

U.S. Patent Application Serial No. 09/712,927
Amendment dated June 8, 2004
Reply to OA of **January 12, 2004**

REMARKS

Claims 1-3, 5-6, 8-11, 13-14, and 16 are pending in this application. Claims 4, 12, 19 and 20 have been canceled without prejudice or disclaimer and claims 1-3, 5, 6, 9-11, 13 and 14 are amended herein. The Applicants respectfully submit that no new matter has been added. It is believed that this Amendment is fully responsive to the Office Action dated January 12, 2004.

Claims 1-6, 8-14, 16, 19 and 20 are rejected under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Reconsideration of the rejection is respectfully requested in view of the amendments to the claims.

In the previous Amendment (October 24, 2003), claims 1 and 9 were amended to add the phrase “which comprises inorganic fine particles having a mean particle diameter of 30 to 100 nm and fine particles having an opposite charge polarity to that of said inorganic fine particles”. The Examiner states that there is no basis for this amendment in the application as filed.

With regard to the “particles having a mean particle diameter of 30 to 100 nm”, Applicants note that original claims 2 and 10 had this recitation, and the Examiner has noted this on page 4, lines 15-18, of the Office action.

The Examiner appears to indicate (page 4, line 12, of the Office action) that the main issue

U.S. Patent Application Serial No. 09/712,927
Amendment dated June 8, 2004
Reply to OA of **January 12, 2004**

in the rejection is lack of description for “particles having an opposite charge to that of the inorganic particles with the inorganic particles having the specified diameters.”

In the present amendments to claims 1 and 9, this portion of the claims is amended as follows:
“said inorganic fine particles comprising particles of hydrophobic silica having a negative charge polarity, and fine particles having ~~an opposite~~ a positive charge polarity ~~to that of said inorganic fine particles~~,”. That is, the toner is recited to have two components: 1) inorganic fine particles, which are recited to comprise “hydrophobic silica having a negative charge polarity”; and (2) fine particles, which are recited to have “a positive charge polarity.”

Applicants submit that there is support in the specification for this amendment. In the proposed amendment, use of hydrophobic silica is supported by canceled claims 19 and 20, and the negative charge polarity of silica particles is also supported by the silica particles “R812,” “NY-50,” “R972D,” and “RX-50” (Nippon Aerosil Company) used in the preparations of Toners E, F and G (pages 25-26 in the specification). Each of the silica particles used in Example 1 (pages 24-26) shows a negative charge, as shown in the attached Technical Information Sheet T1-1222 from Nippon Aerosil Co., Ltd.

Further, a positive charge polarity of fine particles used in combination with the negatively charged silica particles is supported by the descriptions in Example 1. For example, “Epostar S-6” is listed as the positive polarity particles in Toner E (page 25) and “P-2000” as the positive polarity particles in Toner F and Toner H, page 26.

U.S. Patent Application Serial No. **09/712,927**
Amendment dated June 8, 2004
Reply to OA of **January 12, 2004**

Applicants also note that on page 3, lines 13 to 22, of the Office action, referring to Toner E, the Examiner mentioned that the charge on the silica is not described and the size of the silica is outside the scope of the 30 nm to 100 nm range. However, as described above, silica particles "R812" and "NY-50" both show a negative polarity.

With regard to the mean particle diameter of the silica particles in Toner E, the Examiner apparently refers to the 7 nm diameter of "R812" as not meeting the claim limitations. However, the 7 nm particles correspond to the "second silica particles" which, as recited in amended claims 2 and 10, satisfy the requirement "having a mean particle diameter smaller than that of the first silica particles." That is, particles "NY-50" in toner E represent the first silica particles.

The amendments to the dependent claims are for consistency with and proper antecedent basis from claims 1 and 9.

Applicants therefore submit that the subject matter of the claims as amended is adequately described in the specification in accordance with 35 U.S.C. 112, first paragraph.

In view of the aforementioned amendments and accompanying remarks, the claims, as amended, are in condition for allowance, which action, at an early date, is requested.

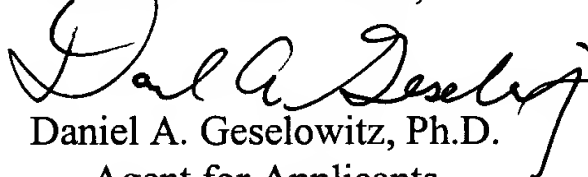
U.S. Patent Application Serial No. 09/712,927
Amendment dated June 8, 2004
Reply to OA of **January 12, 2004**

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

ARMSTRONG, KRATZ, QUINTOS,
HANSON & BROOKS, LLP



Daniel A. Geselowitz, Ph.D.

Agent for Applicants

Reg. No. 42,573

Attachment: Technical Information sheet T1-1222 by Nippon Aerosil Co., Ltd.

DAG/xl

Atty. Docket No. **001527**

Suite 1000

1725 K Street, N.W.

Washington, D.C. 20006

(202) 659-2930



23850

PATENT TRADEMARK OFFICE

Technical Information

TI 1222

Special hydrophobic AEROSIL® (SHA) for Toners



Table 1: Product list with typical data

Group	Product Name	Core Material	Reagent*	Electrostatic Charge
I	AEROSIL R972	AEROSIL 130	DDS	Negative
	AEROSIL R974	AEROSIL 200		
II	AEROSIL RY50	AEROSIL OX50	DMPS	Negative
	AEROSIL NY50	AEROSIL 50		
	AEROSIL RY200	AEROSIL 200		
	AEROSIL RY200S	AEROSIL 130		
	AEROSIL R202	AEROSIL 150		
III	AEROSIL RX50	AEROSIL OX50	HMDS	Negative
	AEROSIL NAX50	AEROSIL 50		
	AEROSIL RX200	AEROSIL 200		
	AEROSIL R8200	AEROSIL 200		
	AEROSIL RX300	AEROSIL 300		
	AEROSIL R812	AEROSIL 300		
	AEROSIL R812S	AEROSIL 300		
IV	VP NA50H**	AEROSIL 50	HMDS+AS	Positive
	AEROSIL R504 RA200H	AEROSIL 200		
	AEROSIL RA200HS	AEROSIL 200		
V	AEROSIL R805	AEROSIL 200	RS	Negative
	AEROSIL R104	AEROSIL 200	D ₄	
	AEROSIL R108	AEROSIL 300	D ₄	
	Titanium Dioxide T 805	Titanium Dioxide P25	RS	
	VP NKT90**	Titanium Dioxide TN90	RS	
VI	Aluminium Oxide C	Aluminium Oxide C	none	Slightly Positive

DDS: Dimethyldichlorosilane

DMPS: Dimethylpolysiloxane

HMDS: Hexamethyldisilazane

AS: Aminosilane

RS: Alkylsilane

D₄: Octamethylcyclotetrasiloxane

VP: Experimental product